

WE CLAIM:

1. A non-woven fabric with melange-type visual appearance and high-durability comprising:

a fiber part including at least one of a melange appearance fiber and a mixture of at least two fibers with different dyeability characteristics;

a matrix binder comprising a polyurethane including soft segments and rigid segments, the soft segments comprising mixtures of polycarbonate polyols and polyester polyols, and the rigid segments comprising urethane groups derived from the reaction of isocyanate with ureic polyols, and groups derived from the reaction between the free isocyanate groups and water.

2. The non-woven fabric of Claim 1 further comprising:

a felt including at least two fibers with different dyeability characteristics impregnated in the polyurethane.

3. The non-woven fabric of Claim 1 wherein the soft segments comprise:

a mixture of polycarbonate diol selected from the group consisting of polypentamethylenecarbonateglycol, polyhexamethylenecarbonateglycol and polyheptamethylenecarbonateglycol; and

wherein the polyester polyols are selected from the group consisting of polyhexamethylenedipatoglycol, polyneopentyladipatoglycol, polytetramethylenedipatoglycol and polycaprolactonediol.

4. The non-woven fabric of Claim 3 wherein the ratio by weight in the mixture between polycarbonate-polyol and polyester polyol is between approximately 80/20 and approximately 20/80.

5. The non-woven fabric of Claims 1 wherein the free isocyanate groups are selected from the group consisting of 2-4(2-6) toluenediisocyanate, 4-4'-diphenylmethane-diisocyanate, 3-isocyanatemethyl 3-5-5 trimethylacidohexylisocyanate, and mixtures thereof.

6. The non-woven fabric of Claim 1 wherein the fiber part includes fibers weighing from between approximately 0.001 and approximately 10 denier.

7. The non-woven fabric of Claim 6 wherein the fibers are selected from the group consisting of natural fibers, cellulose fibers and man-made fibers.

8. The non-woven fabric of Claim 6 wherein at least one of the fibers is a micro-fiber.

9. The non-woven fabric of Claim 2 wherein the fiber part includes one or more fibers that are dyed prior to formation of the felt.

10. The non-woven fabric of Claim 1 wherein the fiber part comprises:

a fiber whose melange appearance is obtained by means of the use of a needle-punching machine fitted with hollow needles.

11. The non-woven fabric of Claim 1 wherein the fiber part comprises:

a fiber whose melange appearance is obtained by means of the use of a print technology.

12. A method for preparing the non-woven fabric of Claim 1 comprising the following steps:

mixing at least two types of staples with different dyeing characteristics;

producing an intermediate felt by mechanical needle-punching;

producing an intermediate raw felt through impregnating the intermediate felt in the matrix binder; and

dyeing and finishing a resulting product.

13. The method of Claim 12 further comprising the step of:
impregnating the intermediate raw felt in a second binder; and
eliminating the second binder.

14. The method of Claim 12 further comprising:
dyeing a semi-finished product using needle dyeing technologies
after impregnating the felt in the matrix binder.

15. The method of Claim 14 wherein the dyeing of the semi-finished product is performed using a needle-punching machine fitted with hollow needles connected to a system for dispensing coloring.

16. The method of Claim 12 wherein the intermediate raw felt is treated according to a print technology.

17. The method of Claim 15 wherein the needle-punching machine is fitted with of a system of hollow needles connected to a dispensing system fed by one or more dye colors.

SUMMARY OF THE INVENTION

A non-woven fabric with melange-type visual appearance and endowed with high-durability comprising a fiber part and a matrix binder characterized by the binder matrix being a polyurethane characterized by the presence of soft segments and rigid segments, the former constituted from mixtures of polycarbonate-polyols and polyester-polyols, and the latter, from urethane groups deriving from the reaction of isocyanates with ureic polyols, and groups deriving from the reaction between the free isocyanate groups and water, and the fiber part comprises a fiber of melange appearance that is a mixture of two or more fibers with different dyeability characteristics.